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Research Report

Alberta Agricultural Research Institute • AARI

1996 Issue One

The Northern Advantage?

Study To Examine Research Opportunities in Alberta's Peace Region

Alberta's Peace Region is unique in its geography, growing conditions, climate commodities and many other factors. It is the top honey-producing region in Alberta and in the country. It also claims the title of the top forage seed-producing region in Canada. An interesting "quirk" of the region is that it contains the highest concentration of leafcutter bees in the province. Leafcutter bees pollinate alfalfa, thus making a substantial contribution to seed production.

In addition to forage seed and honey, the "Peace" produces canola, wheat and barley, as well as livestock. Despite its present diversity, it is felt that the application of identified research and technology will enable the region's industry to further develop and prosper.

In the spring of 1995, the Honourable Walter Paszkowski, Minister of Alberta Agriculture, Food and Rural Development, requested that a study be conducted on Northern Alberta's agriculture and food industry. This request was directed to Mr. Ed Stelmach, MLA, Viking-Vegreville, and Chairman of the Alberta Agricultural Research Institute's Board of Directors.

The purpose of the study was to examine the marketplace opportunities and research priorities of Northern Alberta's agriculture and food industry.

The Alberta Agricultural Research Institute (AARI) coordinated the study under the leadership of a steering committee of regional representatives appointed by the Minister. To provide overall direction for the project, the steering committee consisted of producers, agri-business people, representatives from AARI, both provincial and federal agriculture departments, and the University of Alberta. Knowledge of the Peace Region was essential for each selected member. The committee was chaired by the Executive Director of the Alberta Agricultural Research Institute, Dr. Ralph Christian.

To assist with the research study, a consultant was retained to collect, analyze and summarize information for the steering committee. The consultant also assisted the committee in organizing stakeholder meetings in the Peace Region, and in preparing reports.

The study was conducted in two phases. The first phase concentrated on identifying opportunities for the industry. It also identified technological needs and research priorities for capitalizing on the opportunities, and suggesting courses of action by various research organizations.

The Northern Study's second phase involved organizing consultation meetings with stakeholders, presenting the information collected in Phase I, and recording stakeholder inputs. This consultative approach is

reminiscent of the *Creating Tomorrow* public consultation in 1992/1993.

All four consultation meetings (based on sub-dividing the Peace Region into smaller areas) have been completed.

RESULTS TO DATE

Opportunities for the Peace Region in the food and agriculture sector identified. Research capabilities in the region identified.

POTENTIAL BENEFITS

- Stakeholder consultations facilitated a cooperative effort to further explore the advancement of the food and agriculture industry in the Peace Region, potentially leading to significant increased revenues for Alberta.

Inside

Agricultural Tours Beneficial

2

Tech Transfer – Shelterbelts

2

Dateline

3

Editorial – Biotechnology Forum

4



Tour participants examine bison corrals.

August Tour Day Big Success

Annual Event Contributes to Institute's Research Coordination Effort

An annual event organized by AARI is a one-day tour of farms, processing plants, laboratories and other agri-food sites of interest.

The tours coincide with the August meeting of AARI's Board. Each year, different sites are toured, to give the Board and invited guests an opportunity to get out and visualize what is happening in agricultural research and technology.

The 1995 tour included three members of AARI's Strategic Committee, as well as three MLA's (in addition to Board Chairman, Mr. Ed Stelmach, MLA, Vegreville-Viking): Mr. Paul Langevin, MLA, Lac La Biche-St. Paul; Mr. Stan Woloshyn, MLA, Stony Plain; and Mr. Julius Yankowsky, MLA, Edmonton-Beverly-Belmont.

Tours this year were many and diverse. The first was held at

AAFRD's Crop Diversification Centre (North), one of two centres devoted to crop diversification efforts of the Alberta Government. Secondly, Westaim Technologies Inc., a high-tech, world-class research and development facility in Fort Saskatchewan, was visited. Westaim is a "cooperative" venture of Sherritt Inc. and other industry partners, as well as the federal and provincial governments.

Next on the busy schedule was the Alberta Environmental Centre (AEC) in Vegreville, a major scientific facility of the Government of Alberta. AEC provides excellent research and analytical services in aid of protecting Alberta's environment. The day was wrapped up with an interesting tour of a bison ranch near Smoky Lake. The tour and slide presentation was followed by a delicious bison barbecue.

POTENTIAL BENEFITS

- Information gathering for AARI Board members valuable in assessing research and technology transfer priorities. This information serves in financial assistance decisions for AARI-funded projects.
- Tours are conducive to meeting people and establishing new agricultural

TechTransfer

Give Me Shelter

The title of a classic 60s song, "Gimme Shelter", could be a plea for help from one of Alberta's primary natural resources: soil. As Alberta's

agricultural research braintrust considers the amount of global arable land now turned to desert, researchers are concentrating their efforts on diverse and innovative methods to keep our soil on Alberta land.

Various approaches are being researched to help minimize soil

erosion, such as improved crop and crop residue management, and improved use of inputs. Another option is the use of tree shelterbelts.

The Alberta Agricultural Research Institute (AARI) places a high priority on conservation of natural resources, evident through its support and coordination of research and technology transfer directed to this area. In 1994, AARI funded a project, "Evaluation of Field Shelterbelts in Alberta", under its **Farming for the**

Future On-Farm Demonstration Program. The province-wide study looked at the use of tree shelterbelts to increase crop yields in areas near the trees. It has been found that, downwind, yields can increase 10-15 times. This more than offsets yield loss in the space trees occupy and in the "competition zone" extending to the end of tree roots.

(cont'd on page 4)

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Dateline



Events

April

Focus on Research Opportunities

Program workshops:

1. Swine 2. Horses.

TechTransfer

Give Me Shelter (cont'd)

Mr. John Timmermans, AAFRD's Soil Conservation Specialist in Airdrie, acted as the provincial coordinator for this shelterbelt study. "Shelterbelts are definitely beneficial, not only to the producer, but also in the interest of the public, when one considers the benefit shelterbelts provide to soil conservation," explains Mr. Timmermans. "To the producer, shelterbelts can increase crop yields significantly.

The soil conservation benefit occurs as a result of wind speed reduction by the tree grouping," continues Timmermans. "Tall trees are desirable but not necessary. I have found the drought-resistant shrub, caragana, to be effective. Shelterbelts are useful in

all agricultural areas of Alberta, but particularly in the dry, windy south."

Mr. Timmermans points out that, "Soil conservation is the major benefit, but there are numerous other benefits: the trees provide a habitat for wildlife (pheasants, for example) and a protected area for crops tough to grow under some Alberta conditions. Examples of these crops are potatoes, Saskatoons, strawberries and tree fruits. The trees can also be used for the wood-turning industry, which is a half-million-dollar industry now in Saskatchewan."

Mr. Timmermans summarizes, "Shelterbelts are nothing new but they are an insurance policy against

occasional acts of God, such as dry, windy seasons. Together with proper crop and crop residue management, they can significantly protect against soil loss."

RESULTS TO DATE

Crop yield increases near shelterbelts.
Soil erosion reduction.

POTENTIAL BENEFITS

Value addition by production of fibre and bio-fuels.
Micro-climate around shelterbelts increases potential for increased production of Saskatoon, berries and other crops.



Editorial

Regular readers of "Research Report" may have noticed that the past two editorials covered the topic of biotechnology in agricultural research. Timely, indeed, then was Alberta's first **Agricultural Biotechnology Forum** held in Edmonton in the fall of 1995. The forum, in many ways, expanded upon these editorials.

The forum was an excellent overview of the use of biotechnology in agricultural research, as presented by a wide range of private sector, government and academic speakers. A well-rounded and objective scenario – past, present and future – was painted

by participants, representing most sectors with an interest in biotechnological research.

A common denominator in the forum's presentations and lively discussions was the unanimous agreement that biotech and, specifically, agbiotech, is a powerful and positive research "tool". Its use in medical research has been indispensable. Conference attendees agreed that, despite controversial moral, religious, environmental, and health and safety concerns about "toying" with DNA, life's blueprint, there is no evidence to date suggesting any hazards from the use of biotech, by those stakeholders who know how to use the "tool" to the benefit of industry and society as a whole.

The benefits of agbiotech are staggering, and there are many more yet to be discovered. Agbiotechnology offers higher-quality, safer and more nutritious foods. Biotech benefits the environment, by reducing the need for veterinary drugs, chemical pesticides and fertilizers. A sample of other agbiotech benefits identified during the forum were:

- Higher farm productivity.
- Enhanced sustainability from more efficient use of agricultural

resources, such as soil and plant nutrients.

- Environmental benefits such as biodegradable plastics, lubricants and renewable sources of fuels.
- Diversity of food products, packaging and preservation.

Notable comments from forum participants were:

- "Agbiotech is a key in securing global market opportunities."
- "Genetic engineering is nothing new and it is here to stay."
- "In a sense, agriculture and food production is, and will continue to be biotechnology."

A repeating critical theme during the forum was the need to dispel biotech "mythology" by raising public awareness with strategic educational efforts. It is the responsibility of everyone "in the know" to promote acceptance of biotechnology in agriculture.

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